

Photo 125. View of delaminated fireproofing debris on top of HVAC duct in 5<sup>th</sup> floor attic

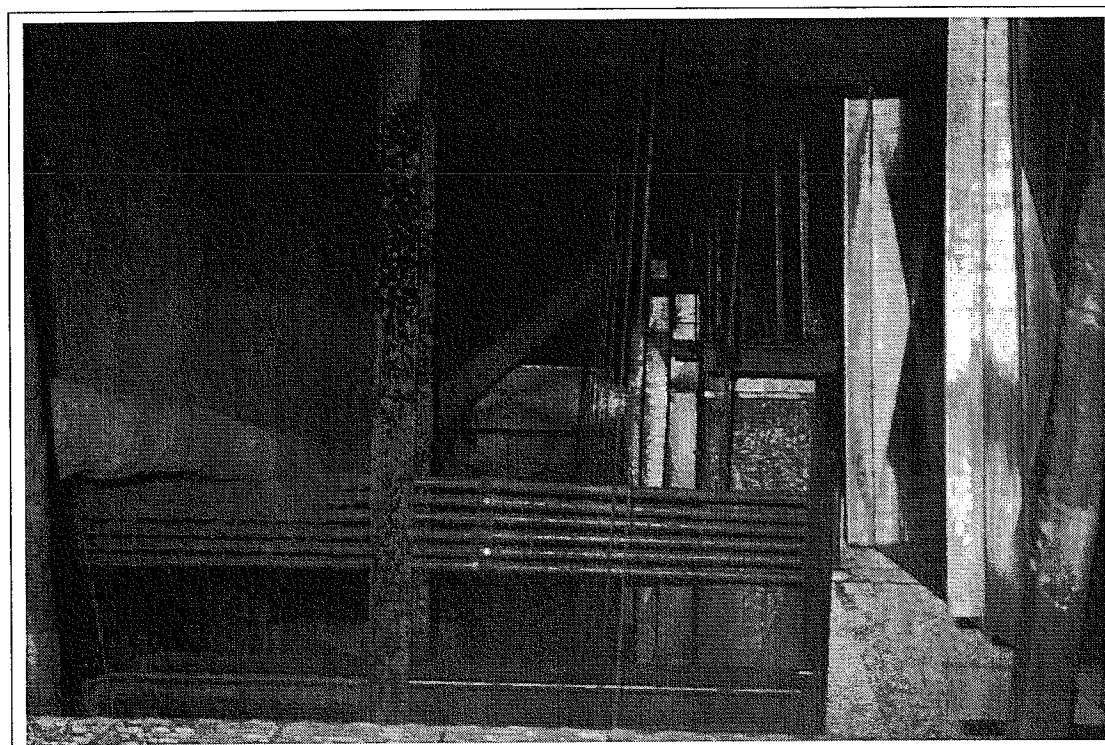


Photo 126. General view of fireproofing 5<sup>th</sup> floor attic

**TUCSON CITY HALL BUILDING**

Building Location: 255 West Alameda Tucson, Arizona

Date of Site Visit: 11/16/06

**Field Notes, Background & General Observations**

Building Type: A large 10-story municipal office building with penthouse mechanical room built in two phases.

Concrete and steel frame construction.

Material Type: Asbestos-Containing Fireproofing applied to structural steel (corrugated metal pan decking, columns and I beams) with significant overspray on walls (at roof deck interface), piping, conduit, electrical and HVAC equipment.

Fireproofing present is a vermiculite based material with a taupe colored appearance – identified as a WR Grace Monokote product.

Material Analysis: Previous bulk sample analysis by EPA/600/R-93/116 indicates fireproofing is asbestos containing

Material Location: Applied to the beams and deck throughout the 2<sup>nd</sup> - 10<sup>th</sup> floors of the building. The fireproofing is also present in the elevator equipment room and penthouse located above the 10<sup>th</sup> floor.

Accessibility: Generally limited to maintenance staff and trades – fireproofing is primarily located above a suspended ceiling system comprised of a metal support grid and “lay-in” style ceiling tiles, however, penetrations in the ceiling (return air grills) provide access and fallout potential to building occupants in those areas.

In addition there are no drop ceilings in the penthouse mechanical room and elevator equipment room which provides open – direct access and fallout potential to all maintenance staff working in those areas.

Material Friability: Friable (easily crumbled)

Material Damage: Obvious delamination observed throughout the application (evidenced by fireproofing dust, debris and small pea to fist size chunks deposited on horizontal surfaces below deck, including ceiling tiles, HVAC ducts and fluorescent light

fixtures) also evidence of localized significant damage observed in a few sporadic areas.

Based on my walk-thru of the building, renovations have taken place on several floors (potentially impacting the fireproofing) including construction of new walls installation of electrical conduit and hanging of wires/cables below the deck.

#### **AHERA Assessment**

Current Material Condition: Fair Overall – fireproofing generally appears to be substantially intact, however fine dust and debris are visible on most horizontal surfaces.

Physical Assessment: Friable

Damage Assessment: DAMAGED - Approximately 10% distributed damage with sporadic areas of localized damage (<25%)

Material Category: Damaged Friable Surfacing ACM

Potential for Disturbance: Moderate – in most areas where a suspended ceiling serves as a barrier between the fireproofing and the work space, however, maintenance activities are performed above the ceiling on a regular basis which likely disturb both source and delaminated/dislodged fireproofing. High – in the mechanical rooms where no barrier separates the material from occupants.

Freq. of Potential Contact: Moderate – in most building areas as maintenance and building occupants are aware of asbestos fireproofing in the building and know not to purposely disturb it. High– in the mechanical rooms.

Influence of Vibration: Moderate – in most areas of the office areas. High – in the mechanical and elevator equipment rooms.

Potential for Air Erosion: Moderate – The plenum space above the suspended ceiling serves as an open air return to the HVAC system (as such low velocity air moves directly across the deteriorating fireproofing on a daily basis).

Overall Rating: Potential for Future Damage

#### **Contamination Assessment**

Dust Samples: Five micro-vacuum settled dust samples and three surface contact samples were collected and analyzed from horizontal surfaces situated directly beneath the fireproofing. Observations (relative to morphology, matrix

and color) made at the time of dust collection confirmed that the dust and debris collected in the samples were from delaminated/dislodged fireproofing applied directly above the vacuumed surface. Analysis of the dust samples indicates extreme to heavy contamination based on asbestos concentrations ranging from approximately 196 million to 11.7 billion asbestos fibers per square foot. Refer to table below:

Sample #	Sample Date	General Sample Location	Sample Surface	Asbestos Structures Counted	Asbestos (Conc.) Str/Ft <sup>2</sup>	Asbestos (Conc.) Str/Cm <sup>2</sup>	Relative Contamination Level
1	11/16/2006	Tucson City Hall, 10th floor, W side - hallway outside Rm 1024	Top of metal HVAC duct	104	$6.86 \times 10^9$	$6.86 \times 10^7$	Extreme
2	11/16/2006	Tucson City Hall, 8th floor, E side - above office of John Garcia	Top of fluorescent light fixture	96	$1.11 \times 10^{10}$	$1.11 \times 10^8$	Extreme
3	11/16/2006	Tucson City Hall, 6th floor, W side - above copy/mail area (adj to Moritz office)	Top of fluorescent light fixture	4	$1.96 \times 10^8$	$1.96 \times 10^6$	Heavy
4	11/16/2006	Tucson City Hall, 4th floor, E side - above file area (adj to the conference room)	Top of fluorescent light fixture	74	$2.72 \times 10^9$	$2.72 \times 10^7$	Extreme
5	11/16/2006	Tucson City Hall, 2nd floor, W side - adjacent to the reception desk	Top of metal HVAC duct	53	$1.17 \times 10^{10}$	$1.17 \times 10^8$	Extreme

Direct Prep Analysis of the three surface contact samples revealed the presence of free un-encapsulated Chrysotile asbestos fibers in each of the samples. This data confirms the release of respirable fibers from the fireproofing present in the subject building.

Sample #	Sample Date	General Sample Location	Sample Surface	Sample Area	Free Asbestos Fibers Observed
A-1	11/16/2006	Tucson City Hall, 10th floor, W side - hallway outside Rm 1024	Top of metal HVAC duct	47 mm	Yes
B-3	11/16/2006	Tucson City Hall, 6th floor, W side - above copy/mail area (adj to Moritz office)	Top of fluorescent light fixture	47 mm	Yes
C-5	11/16/2006	Tucson City Hall, 2nd floor, W side - adjacent to the reception desk	Top of metal HVAC duct	47 mm	Yes

#### Air Samples:

One air sample was collected and analyzed outside the Tucson City Hall building in order to assess the potential contribution of ambient air as a contributing source of asbestos fibers present inside buildings in the metropolitan Tucson area. Analysis of the air sample by Transmission Electron Microscopy revealed that no asbestos structures were detected in the sample. Refer to table below:

Sample #	Sample Date	General Sample Location	Sample Type	Sample Volume	Asbestos Structures Counted	Asbestos (Conc.) Str/cc	Relative Contamination Level
1	11/16/2006	Outside Tucson City Hall, 2nd floor roof – south side	Outdoor	1320 liters	No Asbestos Detected	< 0.0005	none

Photographs: **TUCSON CITY HALL BUILDING**

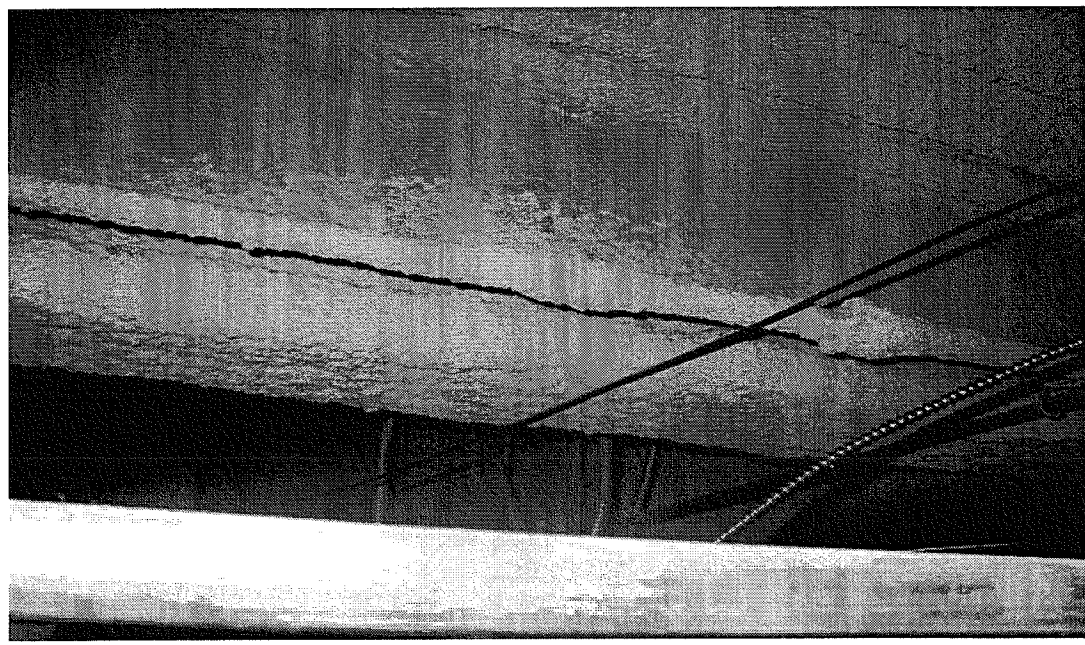


Photo 127. View of fireproofed I-beams and metal pan decking above suspended ceiling  
10th floor, W side - hallway outside Rm 1024



Photo 128. View of fireproofed corrugated metal pan decking above suspended ceiling  
10th floor, W side - hallway outside Rm 1024, Note HVAC hanger straps attached to  
fireproofed decking





Photo 129. View of delaminated fireproofing chunk on top of HVAC duct above suspended ceiling 10th floor, W side - hallway outside Rm 1024

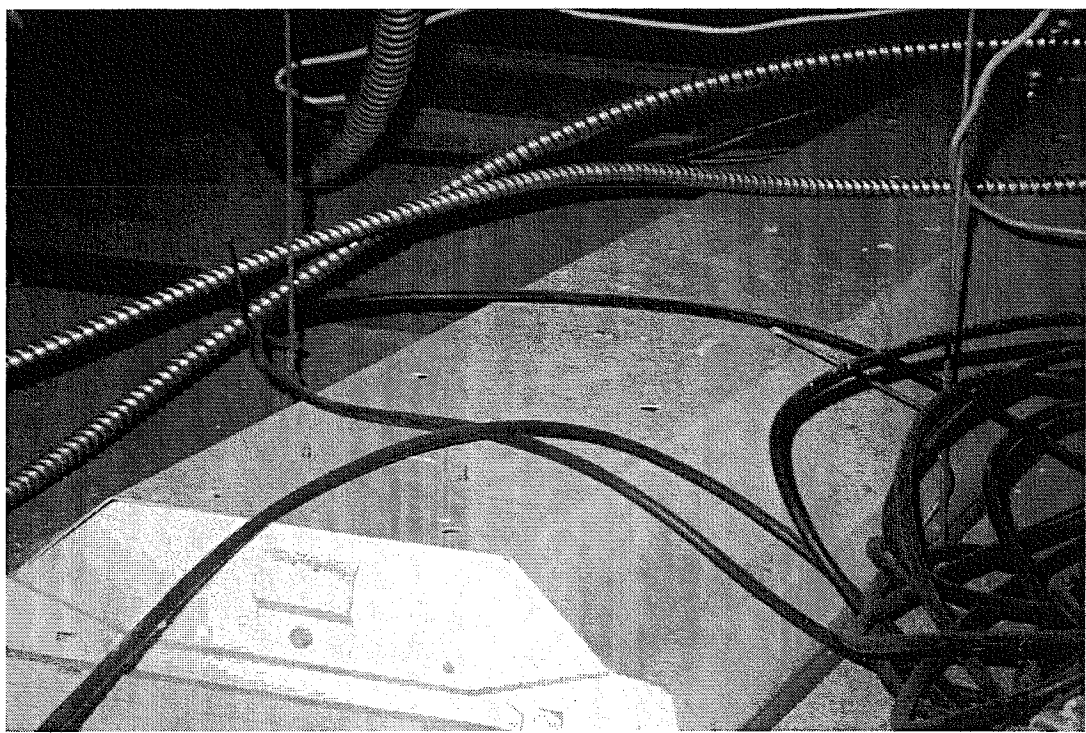


Photo 130. Delaminated fireproofing dust and debris on top of fluorescent light above suspended ceiling 10th floor, W side - hallway outside Rm 1024